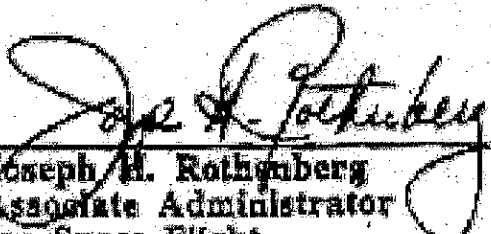


December 18, 2000


Program Commitment Agreement
Acquisition & Management of
Expendable Launch Vehicle Launch Services
Mission Support

It is the responsibility of each of the signing parties to notify the other in the event that a commitment cannot be met and to initiate the timely renegotiation of the terms of this agreement.

AGREEMENTS:


Joseph H. Rothberg
Associate Administrator
for Space Flight

12/18/00
Date


Daniel S. Goldin
Administrator

12/18/00
Date

Table of Contents

1.0	Program Objectives.....	3
	Program Overview.....	3
	Program Authority.....	3
	Technical Performance and Schedule Commitments	5
	Cost Commitments	7
	Acquisition Strategy	8
	High Risk Areas	8
	Internal NASA Agreements.....	9
9.0	External Agreements.....	10
10.0	Independent Evaluation	10
	Tailoring	10
	PCA Activities Log	11
	Attachment 1.....	12

Program Objectives

The Expendable Launch Vehicle (ELV) Program manages and acquires ELV launch services for NASA and its customers. The fundamental program objectives are to:

- A. Provide safe, reliable, and cost effective launch services for NASA payloads.
- B. Maximize probability of launch success for all NASA missions.
- C. Assure customer launch services are provided within budget.

Program Overview

The ELV Program directly supports the policy of the Administration and Congress as identified in NASA's Strategic Plan.

"The Administration and Congress will rely on NASA to buy commercial launch services and, when necessary, to form partnerships with industry to help create new technological capabilities for lower costs and more reliable civil, national security, and commercial access to space."

The ELV Program Office, established in response to the NASA Strategic Plan, provides a single focus for the acquisition and management of ELV launch services while affording NASA the benefits of consolidated and streamlined technical and administrative functions. The reduction of program interfaces and resulting consolidation of insight of commercial launch services will increase efficiency and effectiveness.

The ELV Program Office acquires launch services to meet customer requirements in a full range of launch reliability and performance classes. These range from finding space for small university payloads to launch of dedicated payloads on a range of launch vehicles. The ELV mission support capability is the cornerstone of the ELV Program, which assures NASA retains the technical, management, and acquisition skills necessary to meet customer demand. Mission support provides the staffing and facilities required to meet the Agency's full range of launch service needs.

The ELV Program's major goals include.

- A. Ensure launch service contracts are in place to support approved NASA missions.
- B. Provide Lead Center Program Management (budget, schedule, and technical) for NASA missions utilizing ELV Launch Services.
- C. Provide a successful launch rate at or above 95 percent.
- D. Procure commercial launch services consistent with mission criticality and procurement regulations.

Inherent in all of the ELV Program activities is the application of KSC's four guiding principles as outlined in KSC's plan to implement NASA's strategies: Safety and health first, reliance and teamwork, customer satisfaction, and environmental leadership. The ELV Program will assist KSC in its new role as a Spaceport Technology Center, in partnership with the U.S. Air Force and other entities as appropriate, by identifying issues and assessing the impacts of proposed improvements on NASA missions.

3.0 Program Authority

- A. The Associate Administrator (AA)/Human Exploration and Development of Space (HEDS) will perform the following for the ELV Program:

- Serve as the lead AA for the HEDS Enterprise, ensuring program accomplishment, balancing institutional and program needs, and effective external relations.
- Establish policy, requirements, and programmatic direction.
- Allocate resources and account for them with sound full-cost accounting principles.
- Serve as the external programmatic advocate and interface, identifying customers and assuring products and services meet customer requirements.
- Resolve disagreements which arise between Centers on program management and budget issues.
- Approves Program Plan

B. As delegated by the AA and Deputy AA for Space Operations, the Director, ELV Requirements will perform the following:

- Develop program specific objectives and strategies.
- Develop, coordinate, and update program requirements consistent with strategic plans and customer requirements.
- Develop, coordinate, and document Enterprise launch requirements and provide launch requirements and updates to ELV Lead Center for acquisition and management of requisite launch services.
- Be the external and internal advocate for the program and its requirements, to include broadening the customer base.
- Recommend the ELV Mission Support program budget to the AA/OSF.
- Assess program implementation and changes.
- Establish top-level program metrics which track program content against schedule, cost, and requirements.
- Provide leadership to program formulation.
- Chair the ELV Flight Planning Board.
- Reports status quarterly to the Headquarters Program Management Council and statuses the program to the NASA Administrator.
- Develops and maintains this PCA.

C. KSC is designated as Lead Center for Acquisition and Management of ELV's. The Lead Center Director reports to the AA/OSF, and is delegated management responsibilities and authorities necessary to accomplish the ELV Program requirements. The Lead Center Director is held accountable for program success with the following responsibilities:

- Management responsibility, authority, and accountability for the ELV Program.
- Ensuring that the program is managed to milestones, budgets, technical requirements, and safety/reliability standards established in this document and the ELV Program Plan.
- Conducting all major program reviews to confirm compliance with cost, schedule, and performance targets (including certification of Flight Readiness Reviews).
- Recommending the ELV budget requirements to the AA/OSF.
- Defining and controlling program-level requirements consistent with HEDS objectives and requirements.
- Reviewing and approving program acquisitions consistent with budgets and Agency policies.

- Keeping the AA/OSF informed of critical issues, and providing monthly status of technical and management issues.
 - Chairing the Governing Program Management Council (GPMC) to focus on the performance of the ELV Program Office, consistent with the NASA Strategic Management Handbook, Program/Project Management (NPD 7120.4B), and NASA Program and Project Management Processes and Requirements (NASA Procedures and Guidelines/NPG 7120.5A).
- D. The Program Manager of the ELV and Payload Carriers Programs Office serves as the ELV Program Manager. The ELV Program Manager, reporting to the Lead Center Director, is responsible for:
- Implementation of the ELV Program requirements, and managing top-level schedules and resources.
 - Successful transition of ELV acquisition tasks to KSC from the Glenn Research Center (formerly known as Lewis Research Center) and Goddard Space Flight Center (GSFC), and effectively integrating these responsibilities with current KSC launch site processing.
 - Developing goals, objectives, project plans, and measures for the ELV Program in accordance with the NASA Strategic Plan, the plans of the NASA Enterprises, and the KSC Implementing NASA's Strategies document.
 - Assessing progress by chairing periodic status reviews.
 - Implementing program metrics which track program content against schedule, cost, and requirements.
 - Developing and submitting the ELV Program budget to the Lead Center Director and executing those budgets consistent with approved NASA Operating Plans.
 - Providing reliable, on-time, cost-effective launch services acquired competitively to meet customer requirements.
 - Delegating program responsibilities and resources to supporting Centers, consistent with Center's mission assignments and Centers of Excellence.
 - Approving Project Plans at supporting centers.

4.0 Technical Performance and Schedule Commitments

The ELV Program is committed to satisfying the following requirements and functions:

A-Providing technical assurance of commercial launch services to maximize the probability of mission success of NASA missions.

- Goal is at or above 95%.
- From 1987 to the September 20, 2000 NOAA L launch, demonstrated success rate for NASA-managed launches is 98.1 %.
- To increase success probability:
 - The Lessons Learned from the Broad Area Review (BAR) into Launch Vehicle Failures and myriad of external and internal reviews are being incorporated into OSF's Launch Risk Mitigation Strategy and documented in a NASA Policy Guideline, targeted for completion by March 2001.
 - OSF has augmented KSC ELV staffing to enhance mission success for launches acquired by NASA. Staffing vacancies targeted for completion by October 2000.

B-Assuring suitable launch services are available for all manifested missions by:

- Award of multiple indefinite delivery, indefinite quantity contracts under the MSFC Next Generation Launch Services (NGLS) acquisition by April 2001.

C-Forecasting future launch service needs:

- Through quarterly meetings of the OSF ELV Flight Planning Board chaired by the Director, ELV Requirements. Next meeting November 2000 .
- NASA attendance and participation in the bi-annual USAF Current Launch Schedule Review Board. Next meeting scheduled for December 2000.
- Completion of International Space Station Alternative Access Industry Studies by November 2000.

D-Developing and administering the budget for the missions utilizing ELV launch services.

5.0 Cost Commitments

This PCA cost commitment is for the OSF ELV Mission Support activity that funds the core capability at KSC and MSFC enabling the acquisition and management of ELV launch services for all NASA enterprises as outlined in this PCA. The funding requirement is consistent with the President's FY 2001 Budget and supports the President's FY 2001 Budget manifest shown in Attachment 1. The current ELV FPB manifest shown in Attachment 2 reflects current mission planning.


The launch services funding requirements for Enterprise customers consistent with the FY 2001 Budget Manifest shown in Attachment 1 are provided below for reference. The actual launch services commitments for each spacecraft program are contained in the Enterprise program-specific PCAs. (eg. Discovery, ESSP, etc.) Updates to the enterprise launch service funding requirements are underway to assure consistency with manifest changes approved through the ELV Flight Planning Board.

NASA-PROVIDED LAUNCH SERVICES- see updated sheet **(\$M)**

ENTERPRISE	FY99	FY00	FY01	FY02	FY03	FY04
PCA ACTIVITY						
OSF						
ELV MISSION SUPPORT	31.5	30.6	33.2	33.3	34.8	35.3
ENTERPRISE LAUNCH SERVICES						
OSF (TDRSS)	30.2	14.0	40.5	67.8	37.0	
OSS	197.3	136.7	161.8	193.7	250.1	297.2
UES (Direct)	65.6	73.0	86.0	64.8	43.8	32.0
NOAA** (Reimbursable)	57.0	74.9	62.9	27.0	25.0	14.5
GRAND TOTAL	381.6	329.2	386.5	386.7	391.5	379.0

** Excludes GOES N-Q launch services funding. These numbers reflect the current KSC Reimbursable Plan submit.

Concurrence:


Code 13


Code 11

Acquisition Strategy

The ELV Program procures launch services from commercial suppliers consistent with the Commercial Space Act of 1999. Older launch service contracts (IELV, MELV, Med-Lite, UELV, and GOES) are based on a firm fixed price for the basic launch service plus mission-unique requirements which are acquired as pre-priced options, or individually negotiated and added via contract modifications. These contracts are based on FAR Part 15 and provide services for missions through approximately 2003.

The KSC ELV Program Office has completed two launch service acquisitions, the Small ELV (SELV) and the NASA Launch Services (NLS) contracts. These contracts include indefinite delivery indefinite quantity launch services with not-to-exceed fixed prices and support mission requirements for all payload classes for the next 5-10 years. The NLS contracts utilize FAR Part 12 commercial acquisition practices and include an on-ramp for future qualified launch suppliers. All current NASA launch service contracts require government insight/approval and integration responsibilities as defined in NPD 8610.23.

The MSFC Space Transportation Office has initiated the Next Generation Launch Services (NGLS) acquisition, which seeks to enable NASA access to launch services on emerging launch vehicles with little to no previously demonstrated flight history. This acquisition will be indefinite delivery indefinite quantity, seeking multiple contract awards and an on-ramp to enable use of new systems as they are commercially developed. Contract awards are targeted for April 2001.

Acquisitions for follow-on launch service contracts will utilize FAR Part 12, Commercial Acquisition. Other opportunities for commercialization of management and integration processes controlled or influenced by NASA's ELV Program will be explored and implemented as feasible.

ELV telemetry support, payload processing services, and payload facility operations at the Kennedy Space Center are procured using a performance-based contract, currently with the Boeing Company. This contract has been in effect for approximately 12 years and will continue in effect through December 31, 2001. Engineering support beyond that date will be competitively procured. ELV telemetry support, payload processing services, and payload facility operations for West Coast ELV operations at Vandenberg Air Force Base are procured from SpaceMark Corporation. In addition, the ELV Program has procured commercially available payload processing capability from Astrotech and Space Systems International for periods when peak demands exceed existing ELV capabilities or other accommodations were required to meet specific mission requirements.

7.0 High Risk Areas

The ELV Program risk management process is designed to ensure early identification of potential problems, enable more efficient use of resources, promote teamwork by involving personnel at all levels of the program, provide information for tradeoffs based on priorities and quantified assessments, and increase the probability of mission success. The ELV Program uses the continuous risk management process prescribed by the Agency for the formulation and implementation of programs and projects. The ELV risk management process starts with the identification of risks, followed by analyzing the probability of occurrence and potential impacts, controlling the process, planning and implementing mitigation strategies, and monitoring the resulting performance.

Additionally, the ELV Program is incorporating new standardized risk mitigation techniques such as fishbone analysis to further enhance mission success on commercially developed launch services. The ELV Program has evaluated the use of risk analysis tools and determined that fishbone analysis is the most applicable tool for commercial, single string, mature launch vehicle systems. The fishbone analysis uses the best aspects of both the FMEA and fault tree analysis. Fishbone analysis will be used for all flight anomalies, all launch vehicle upgrades implemented in partnership with the launch service provider, and on significant mission unique modifications.

+

NPD 8610.7, Launch Services Risk Mitigation Policy for NASA-Owned or NASA-Sponsored Payloads, defines a method of assessing and mitigating risk associated with launching NASA payloads using launch services with demonstrated reliability. The ELV Program employs a launch service acquisition strategy that balances mission risk with launch vehicle qualification levels in accordance with NPD 8610.7. The qualification levels are derived from the launch vehicle demonstrated flight history and the program's maturity. The Program Office also implements insight and approval processes in accordance with NPD 8610.23, Technical Oversight of Expendable Launch Vehicle (ELV) Launch Services. These processes allow the Government to participate in the contractor's activities through watchful observation, documentation, meeting attendance, reviews, tests, and compliance evaluations.

8.0 Internal NASA Agreements

GSFC Agreements

The ELV transition effort from Goddard to KSC is complete and the GSFC Project Office will be phased out at the end of FY 2000.

The current agreements with GSFC are as follows:

"Memorandum of Agreement Between GSFC and KSC Concerning the Relationship Between the GSFC Access to Space Group and the KSC ELV Mission Integration Branch" dated August 3, 1999. This MOA outlines support to GSFC Flight Projects in the areas of end-to-end systems engineering, advanced concepts, new mission formulation, and launch service acquisition and management.

"Memorandum of Understanding (KCA-1466) with the GSFC Office System Safety and Mission Assurance" dated October 1, 1998. This MOU outlines specified mission assurance and independent review support to be provided to KSC for the ELV Program.

MSFC Agreement

MSFC will continue to provide engineering insight into the development of new commercial launch vehicles that lack a flight history. MSFC has initiated the Next Generation Launch Services (NGLS) acquisition which seeks to afford NASA launch services on emerging launch vehicles with little to no previously demonstrated flight history. This acquisition will be indefinite delivery indefinite quantity, seeking multiple contract awards and an on-ramp to enable use of new systems as they are commercially developed. KSC will provide assistance to MSFC on NGLS as may be required. MSFC will also provide technical support to KSC on as needed consulting basis for major problems on existing vehicles. An agreement is under development to address center roles and responsibilities.

Jet Propulsion Laboratory (JPL) Agreement

An agreement with JPL titled JPL and KSC Partnership for Launch Systems/Future Missions and Advanced Development Agreement dated 6/99 outlines the JPL/KSC support relationship.

Other NASA Centers

The resources of other NASA Centers such as the wind tunnels at Langley and the expertise at GRC will be utilized on an as needed/as appropriate basis with agreements prepared as the need arises.

External Agreements

Memorandum of Agreement Between NASA and the USAF on Launch Service and Range Support to Government ELV Programs dated January 1994.

10.0 Independent Evaluation

The ELV Program Office routinely conducts or participates in the following formal reviews either at the interval noted or as requirement warrants. The project, mission, vehicle, and launch readiness reviews are specifically addressed in the ELV Project Plan.

- Governing Program Management Council (quarterly).
- Payload External Independent Readiness Review (EIRR)
- Spacecraft Independent Annual Review (IAR) for missions on NASA-provided ELV's
- Individual Mission Red Team Review

This is a service program and we respond to customers requiring launch services. A termination criteria is not appropriate. If the capability would no longer be required, program termination would be warranted.

Tailoring

No tailoring is required.

12.0 PCA Activities Log

This section is to provide a documented history of changes to the ELV Program Commitment Agreement. Records resulting from the change control system will supplement this log.

Date	Event	Change	Addendum	Cancellation Review Req'd	AA Signature	Administrator Signature
		Update program overview section: 2.0				
		Update technical performance & schedule commitments section 4.0				
		Update cost commitments section 5.0				
		Update acquisition strategy section 6.0				
		Update High risk areas section 7.0				
		Update Internal agreements section 8.0				
		Update External Agreements section 9.0				
		Update Independent evaluation section 10.0				



NASA ELV MANIFEST FY 2001 PRESIDENT'S BUDGET



	FY '00	FY '01	FY '02	FY '03	FY '04	FY '05	FY '06	FY '07
SMALL CLASS (SC) PEGASUS (P) - WFF VELY (UL) LOW COST BOOSTER (LC) ATHENA I (AI) SECONDARY (S) TAURUS (TS)	<input checked="" type="checkbox"/> T/S ACHUNKSAT 1979 KESS-1-701 <input checked="" type="checkbox"/> P P NETE II-7000 VET 545 <input checked="" type="checkbox"/> S TS <input checked="" type="checkbox"/> S CLINTON - 615 DS <input checked="" type="checkbox"/> S PROSEPS-920	<input checked="" type="checkbox"/> P <input checked="" type="checkbox"/> UL GALEX-915 SCISAT-1001 <input checked="" type="checkbox"/> DS ONES-402 P <input checked="" type="checkbox"/> S SORCE-1002 ST-1-701 <input checked="" type="checkbox"/> S MEX-7001	<input checked="" type="checkbox"/> SC <input checked="" type="checkbox"/> UL EOS-501 KOS <input checked="" type="checkbox"/> S SPACETECH-503 <input checked="" type="checkbox"/> UL <input checked="" type="checkbox"/> S UNES-1-03	<input checked="" type="checkbox"/> SC <input checked="" type="checkbox"/> UL SHER-1-1001 SH-1-ESSP-5-503 <input checked="" type="checkbox"/> UL <input checked="" type="checkbox"/> S UNES-2-04 <input checked="" type="checkbox"/> LC UNEX-3-304 <input checked="" type="checkbox"/> LC UNEX-3-7004	<input checked="" type="checkbox"/> SC <input checked="" type="checkbox"/> UL SHER-1-1001 SH-1-ESSP-5-503 <input checked="" type="checkbox"/> UL <input checked="" type="checkbox"/> S UNES-3-05 <input checked="" type="checkbox"/> SC SPACETECH-803 <input checked="" type="checkbox"/> LC UNEX-4-304 <input checked="" type="checkbox"/> LC UNEX-7-2005 <input checked="" type="checkbox"/> SC <input checked="" type="checkbox"/> S UNEX-12-7001	<input checked="" type="checkbox"/> SC <input checked="" type="checkbox"/> UL ESSP-7-100 <input checked="" type="checkbox"/> UL UNES-1-05 <input checked="" type="checkbox"/> LC UNEX-5-305 <input checked="" type="checkbox"/> S SYSTEM-1-04 UNEX-6-10 2005-SC <input checked="" type="checkbox"/> S SHER-11-7001 <input checked="" type="checkbox"/> SH SPACETECH-7-504	<input checked="" type="checkbox"/> LC UNEX-10-1006 <input checked="" type="checkbox"/> LC UNEX-3-107 <input checked="" type="checkbox"/> S SYSTEM-2-07 <input checked="" type="checkbox"/> LC UNES-07	
MED-LITE (ML) DELTA 7325/7320 (D3) DELTA 7425/7426 (D4)	<input checked="" type="checkbox"/> DS EDISACC MAGE-143 <input checked="" type="checkbox"/> DS MADE-245	<input checked="" type="checkbox"/> DS MAP-110 <input checked="" type="checkbox"/> DS GENESIS-107 <input checked="" type="checkbox"/> DS MARS LANDER 2 402 <input checked="" type="checkbox"/> DS ICESAT/CATSAT 701	<input checked="" type="checkbox"/> DS CONTOUR-NET 806 <input checked="" type="checkbox"/> DS NOVA-M 107 (501)	<input checked="" type="checkbox"/> DS PROSSOLCEN CLOUSAT-203 <input checked="" type="checkbox"/> UL <input checked="" type="checkbox"/> S SNIT-703	<input checked="" type="checkbox"/> ML <input checked="" type="checkbox"/> S STEREO 1-804 <input checked="" type="checkbox"/> ML <input checked="" type="checkbox"/> S FAME-604 <input checked="" type="checkbox"/> ML STEREO 2-1004	<input checked="" type="checkbox"/> ML NOVA-M-1204 <input checked="" type="checkbox"/> ML SPACETECH-1-305	<input checked="" type="checkbox"/> ML MEXES-1005 <input checked="" type="checkbox"/> ML DISCOVERY 9 1245 <input checked="" type="checkbox"/> DS BRIDGE-1205 <input checked="" type="checkbox"/> DS MEX-505	<input checked="" type="checkbox"/> ML MEXES-1006 <input checked="" type="checkbox"/> DS DISCOVERY 10 7006
MEDIUM CLASS (MC) DELTA 7920/7925 (D) DELTA 7920 H (DH) TITAN II (T-II) - VAFB	<input checked="" type="checkbox"/> DS TIMED/ASOBY 518 <input checked="" type="checkbox"/> DS NDAA-1-87 <input checked="" type="checkbox"/> DS GPR-504	<input checked="" type="checkbox"/> DS EOR-1-1071 <input checked="" type="checkbox"/> DS MARS ORBITER 2 3301 <input checked="" type="checkbox"/> DS NOVA-M 501	<input checked="" type="checkbox"/> DS GREF-1201	<input checked="" type="checkbox"/> MC EOS-CHEM 1202	<input checked="" type="checkbox"/> MC DEEP IMPACT 104 <input checked="" type="checkbox"/> MC MESSENGER 323		<input checked="" type="checkbox"/> MC GLAST-805	
INTERMEDIATE CLASS ATLAS IIA (IIA) ATLAS IIA (IIAS) DELTA III (DIII)	<input checked="" type="checkbox"/> DS TERRA (EOS-AMT) NET 5214 <input checked="" type="checkbox"/> DS GOES-1-NET 402 <input checked="" type="checkbox"/> DS TMS-M-NET 525	<input checked="" type="checkbox"/> DS GOES-M-701	<input checked="" type="checkbox"/> DS TMS-1-502	<input checked="" type="checkbox"/> DS GOES-M-1002 <input checked="" type="checkbox"/> DS TMS-1-303 <input checked="" type="checkbox"/> DS MARS SURVEYOR	<input checked="" type="checkbox"/> DS GOES-O-1004 <input checked="" type="checkbox"/> DS EUROPA ORBITER 1107	<input checked="" type="checkbox"/> DS FLUO EXPRESS 1204	<input checked="" type="checkbox"/> DS GOES-P-404 <input checked="" type="checkbox"/> DS EM-104	<input checked="" type="checkbox"/> DS SOLAR PROBE 707 <input checked="" type="checkbox"/> DS MOST-807 <input checked="" type="checkbox"/> DS MARS ORBITER 907 <input checked="" type="checkbox"/> DS MARS LANDER 407

* FOR NASA PLANNING PURPOSES

△ = OSS
□ = DES

○ = OSF
✓ = VAFB LAUNCH

K = KWAJALEEN LAUNCH
K. POWERHOUSE
K. SPACE SHUTTLE START 1/2001